Diné College

# PUH 395 Introduction to Epidemiology

## Course Syllabus

### Fall 2018

#### Instructor: Mark C. Bauer, PhD

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**Course Description:**

This course will introduce students to the public health science of Epidemiology. The course will provide students with skills for identifying relevant and appropriate data and information sources. It will explore relationships of risk factor and disease outcomes, with particular attention to health priorities on the Navajo Nation. It will introduce students to epidemiologic research designs and measures, and the ways in which epidemiology influences public health decision-making.

The academic program in Public Health at Diné College has been developed to be consistent with and to advance the implementation of the Diné Educational Philosophy (DEP) of the college. This course is based on these principles. Students will learn how to use the knowledge and skills of Epidemiology to consider the issues, definitions and value of measuring and understanding disease (*Nitsáhákees* – Thinking), how to plan surveillance and studies of health and disease (*Nahat’á*  - Planning), apply this knowledge to public health practice (*Iiná* - Living) and to use these tools to measure and evaluate their own work and the work of others who are engaged as public health practitioners (*Sii Hasin* – Reflection, Evaluation).

**Pre-Requisites:**

PUH 111 and either Math 110, 114 or 118. MTH/PSY 213 will be useful.

**Course Objectives:**

1. Students will gain an understanding of how Epidemiology contributes to the field of public health, specifically health promotion, disease prevention and public policy.
2. Students will become familiar with epidemiologic concepts and basic terminology used.
3. Students will calculate and interpret ratios, proportions, incidence rates, mortality rates, prevalence, years of potential life lost, and others
4. Students will understand and interpret common measures of association between risk factors and disease outcomes such as relative risk and odds ratio.
5. Students will be introduced to various research designs used in epidemiology.
6. Students will learn the importance of data collection and data maintenance in public health.
7. Students will be able to identify appropriate uses and limitations of data and sources of information relevant to public health issues and practice.
8. Students will be able to identify independent and dependent variables in research designs.
9. Students will learn to understand variables and how to create numerical and graphical summaries of data.
10. Students will be able to interpret computer-generated outputs for the more commonly used statistical tests (two-way tables and chi-square).
11. Students will describe the processes, uses and evaluation of public health surveillance and outbreak investigations
12. Students will learn how to read and interpret epidemiologically oriented research articles and findings.

**Required Texts:**

##### Bonita, R., Beaglehole, R., and Kjellstrom, T. Basic Epidemiology. 2rd Edition, 2006, World Health Organization.

##### Centers for Disease Control and Prevention, Principles of Epidemiology in Public Health Practice. 3rd Edition, 2012. U.S. Department of Health and Human Services.

Both texts are available for free download from the course Blackboard site or from WHO and CDC.

**Grading and Evaluation Criteria:**

1. Assignments, usually at least one each week (20%)
2. Quizzes (20%)
3. Attendance and Participation in classes (10%)
4. Mid-Semester Exam (25%)
5. Final Exam (25%)

**Both the Mid-Semester Exam and the Final Exam will be in-class exams and will consist of questions that will require short answers and basic calculations. They may include a “take-home” section.**

**Other Requirements**

Students are reminded that Diné College has an official policy on “Academic Integrity” which appears in the *General Catalog*. This policy deals with various problems of academic dishonesty and lists several possible outcomes (penalties) that may result from violation of this policy, including failing the course, being dismissed from the course, or being placed on probation or suspension. Students are expected to be familiar with this policy and to maintain high standards of academic integrity in all of their academic work at Diné College.

Students enrolled in this class will need internet access to Blackboard, a learning management system, for schedules, homework and reading assignments and other essential course documents. We will use Blackboard to provide handouts, assignments, announcements, and discussion areas. Students must be able to download and upload assignment files. Since there are sometimes large numbers of students enrolled in this class, and they are spread out over the entire Navajo Nation, this electronic means of communication is the only way that we can possibly organize and deliver this course in a successful manner.

You will need to be sure that your Warrior ID (your Diné College computer login) is working for you and that you remember the password. Call the Computer Help Line at X6644 (from off campus dial 928-724-6644) if you need help with that. Be sure to maintain your college account, changing your password as required.

Reading assignments, homework assignments and other course materials will be posted on the website, usually at least one day before the class session during which they will be discussed or assigned. Students should have a way to print these materials, if possible. In turn, students will be expected to submit their Homework assignments, Projects and other course materials to the Instructor by browsing, selecting and uploading them as files on the website, then submitting them.

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Mark Bauer, PhD, Instructor James Tutt, Dean, School of STEM